



# Contagious Equine Metritis

## The Disease

Contagious Equine Metritis (CEM) is a highly contagious venereal Foreign Animal Disease of horses caused by the bacteria *Taylorella equigenitalis*. The disease is not known to affect humans or other species of livestock. Disease transmission occurs during breeding by natural cover or artificial insemination.

Most CEM cases involve non-clinical mares with mild uterine inflammation. Asymptomatic mares can be infectious and remain carriers for several months. An acute infection can cause active inflammation of the endometrium that results in a mucoid, vulvar discharge 10-14 days post-breeding. Abortions due to CEM are rare. Mares infected during pregnancy can produce subclinical carrier foals. Infected stallions exhibit no clinical signs but can carry the organism on their external genitalia for an extended period of time.

Carrier mares and stallions act as a reservoir of *T. equigenitalis*. Undiagnosed mares and stallions are the source of infection in disease outbreaks. Detection of the carrier state relies on isolation of the bacteria from urogenital swabs. Due to the fastidious nature and slow growth characteristics of the organism, it is difficult to culture and thus, requires obtaining multiple culture samples over a period of one week.

## Testing and Treatment Protocols

Exposed stallion testing protocols include two sets of cultures and breeding of two qualified negative test mares. The test mares are cultured on days 3, 6, 9 and 28 post breeding and bled for complement fixation testing on day 21 post breeding. Stallions are released from quarantine with negative pre-breeding cultures, negative test mare cultures and negative test mare complement fixation test.

Since stallions do not develop detectable antibodies, the serologic test is only useful in the detection of CEM antibodies in mares. Successful treatment of CEM culture -positive mares and stallions is through the use of appropriate antibiotics.

*T. equigenitalis* infections of carrier horses may be eliminated by washing the external genitalia with disinfectants and treating with a local antibiotic. The organism may be more readily eliminated from stallions and treatment of the mare can take up to several weeks and may include systemic antibiotic treatment.



## Prevention

Currently, the United States (U.S.) is considered free of Contagious Equine Metritis. To ensure this free status, it is required that horses over two years of age being imported from CEM affected countries are quarantined and screened for *T. equigenitalis*.

In countries where the disease is present, it is controlled by only breeding stallions and mares which are CEM test negative and are not known to be CEM carriers. Critical disease control measures are excellent hygiene during reproductive procedures and cleaning and disinfection of potential fomites, such as breeding equipment and breeding mounts.

## 2013 California CEM Incident

In January 2013, a private practitioner working up a 17 year old Lusitano mare for history of infertility, submitted samples to the California Animal Health and Food Safety Laboratory (CAHFS) for culture. The CAHFS Laboratory cultured the sample and based on suspicious growth, subsequently sent it to the National Veterinary Services Laboratory (NVSL), where it was confirmed positive for *Taylorella equigenitalis*,



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the organism responsible for CEM. This mare is considered the index case for the 2013 CEM outbreak. The California Department of Food and Agriculture, Animal Health Branch (AHB) conducted an intense epidemiological investigation leading to the detection of three additional confirmed CEM positive cases and twenty-two exposed horses.

The first positive stallion identified was a 20 year old Lusitano Stallion, imported from Brazil in 2003, who was bred to the index mare by live cover and artificial insemination. During the 2012 breeding season, the positive Lusitano stallion was collected at a stallion station in California, prompting the AHB to identify and test all exposed stallions<sup>1</sup> and mares<sup>2</sup>. In addition to the index mare and Lusitano stallion, one exposed stallion (a domestic 25 year old Lipizzaner stallion that had semen collected at the same facility as the positive Lusitano stallion in 2012) and one exposed mare (a domestic 13 year old pregnant Andalusian cross that was bred to the positive Lusitano by artificial insemination in 2012) were confirmed CEM positive.

All CEM positive animals were placed under quarantine for treatment and additional testing. NVSL determined that the strain of the bacterium from all four positive horses did not match any *T. equigenitalis* strains ever found in the United States, indicating these cases were not related to any previous cases of CEM diagnosed in the United States.

The 22 exposed horses were placed under quarantine until required testing and treatment protocols were completed.

The 22 exposed horses included:

- Eleven exposed stallions from the 2012 breeding season;
- Two exposed mares and one exposed foal from the 2012 breeding season;
- Three exposed stallions from 2008;
- Four exposed mares from 2008;
- One exposed mare from 2007.

<sup>1</sup>Exposed stallion is defined as any stallion collected at the stallion station seven days prior to the positive stallion and seven days after the positive stallion.

<sup>2</sup>An exposed mare is defined as any mare bred by live cover or artificial insemination to the positive stallion.

Year	# CEM Cases in CA
2011	0
2012	0
2013	4
2014	0
2015	0
2016	0
2017	0

## Reportable Disease Alert

Contagious Equine Metritis is a reportable disease (pursuant to §9101 of the California FAC, Title 3 California CR §797 and Title 9 CFR §161.4(f)) and must be reported within two days of discovery. If your horse is exhibiting clinical signs consistent with CEM or has been exposed please contact your private practitioner or CDFA officials.

[Reportable Disease List](#)

## Animal Health and Food Safety Services Animal Health Branch

Headquarters - (916) 900-5002  
 Redding District - (530) 225-2140  
 Modesto District - (209) 491-9350  
 Tulare District - (559) 685-3500  
 Ontario District - (909) 947-4462  
**USDA-APHIS-VS** - (916) 854-3950 or (877) 741-3690

For more information, please go to the following:

[Contagious Equine Metritis Information Page](http://www.cdfa.ca.gov/ahfss/Animal_Health/Contagious_Equine_Metritis.html)

[www.cdfa.ca.gov/ahfss/Animal\\_Health/Contagious\\_Equine\\_Metritis.html](http://www.cdfa.ca.gov/ahfss/Animal_Health/Contagious_Equine_Metritis.html)